BE-VII / Mech / Indu Engg & Ent Res planning MECH

11.12.12

ws-Sept, 2012 (c) 83

Con. 10262–12. **(REVISED COURSE)** **KR–5205**

(3 Hours) **[Total Marks : 100**

N. B. : (1) Question No. **1** is **compulsory**.
(2) Attempt any **four** questions from **remaining**.
(3) **Figures** to **right** indicate **full** marks.
(4) Assume **suitable** data whenever **necessary**.

1. Write short note on the following (any **four**) :– **20**
   (a) What is the difference between value engineering and value analysis ?
   (b) Quality of design and quality of conformance to design.
   (c) Objectives of plant layouts.
   (d) Therbligs.
   (e) KANBAN.
   (f) Tools and techniques of industrial engineering.

2. (a) The following gives the No. of missing rivets noted in a fabricated bus. Construct C chart with 3 sigma limits and comment on the process. **10**

Bus No.	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**
No. of Missing rivets	15	14	27	21	10	26	16	12	15	14

   (b) Write short notes on computerized relative allocation of facilities (CRAFT) and computerized relationship layout planning (CORELAP). **10**

3. (a) The management is interested to know the percentage of idle time of an automatic machine section. Work sampling study was conducted assuming level of confidence 95% and accuracy of +/– 5%. Calculate the number of observations necessary to obtain desired results. In order to estimate the value of p a trial study was conducted consisting of 500 random observations. 125 observations showed that the machine was idle. **10**
   (b) What are the advantages of micro-motion study ? Also explain cycle graph and chronocyclegraph. **10**

4. (a) Define industrial engineering. What is its importance ? Explain the Role of industrial engineer. **10**
   (b) How value engineering helps to improve productivity ? Discuss the various fields of application of value engineering. **10**

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5. (a) Discuss various elements of ERP architecture. How will you justify the ERP in terms of cost, tangible and intangible benefits ? **10**
   (b) Explain evolution of ERP from MRP. Discuss overview of ERP system for a manufacturing industry with different functional modules. **10**

6. Write short notes on the following :– **20**
   (a) JIT manufacturing system for waste reduction
   (b) Business process reengineering
   (c) Lean manufacturing
   (d) Process capability

7. (a) Explain Principles of motion economy with respect to arrangement of the workplace. **10**
   (b) Explain the following :– **10**
      (i) Selection of subgroup size
      (ii) Comparison of variable control chart and attribute control charts.
